

ABSTRACT OF THE DISCLOSURE

The heat of arc plasma generated in arc welding is used to provide a
5 welding method for a Si-based material. The method of the present invention is
capable of welding a Si-based material, which is difficult to weld by conventional
methods due to its brittle nature and high electric resistance. In an argon gas
atmosphere, a tungsten electrode is used as a cathode. A water cooling copper
sheet and plate is used as an anode. An arc is generated between this pair of
10 electrodes. The arc length is gradually extended, and a pair of Si-based materials
are near an arc column. Fusion welding of a weld zone is carried out while
rotating the Si-based materials around an axis.